

CLAIMS

It is claimed:

1. A noise eliminating circuit comprising

a noise elimination processing unit that interpolates a generation period of pulse noise overlapped with a received signal depending on a first detection signal acquired by level detection of an intermediate frequency signal of the received signal, the first detection signal indicating the generation of the pulse noise, wherein the noise eliminating circuit comprises:

a predicting unit that predicts a value of the intermediate frequency signal at a predetermined clock time based on an intermediate frequency signal generated a predetermined time earlier than the intermediate frequency signal;

a detecting unit that compares

a difference between the value of the predicted intermediate frequency signal and the value of the generated intermediate frequency signal, at the predetermined clock time, with

a predetermined threshold,

to output a second detection signal indicating the generation of the pulse noise; and

a noise elimination controlling unit that selectively outputs the first detection signal and the second detection signal as a signal for interpolating the generation period of the pulse noise to the noise elimination processing unit depending on electric field intensity signal acquired based on the intermediate frequency signal.

2. The noise eliminating circuit of claim 1, wherein the noise elimination controlling unit outputs the second detection signal as the signal for interpolating the generation period of the pulse noise to the noise elimination processing unit if the electric field intensity signal indicates a predetermined first electric field intensity or less.
3. The noise eliminating circuit of claim 1 or 2, wherein the noise elimination controlling unit outputs the first detection signal as the signal for interpolating the generation period of the pulse noise to the noise elimination processing unit if the electric field intensity signal indicates more than a second electric field intensity which is more than the first electric field intensity.
4. The noise eliminating circuit of any one of claims 1 through 3, wherein the noise elimination controlling unit outputs any one of the first detection signal and the second detection signal as the signal for interpolating the generation period of the pulse noise to the noise elimination processing unit if the electric field intensity signal indicates: more than the first electric field intensity; and equal to or less than the second electric field intensity.
5. The noise eliminating circuit of claim 3, wherein the noise elimination controlling unit does not output both the first detection signal and the second detection signal if the electric field intensity signal indicates more than a third electric field intensity which is more than the second electric field intensity.
6. The noise eliminating circuit of any one of claims 1 through 5, wherein the received signal is an AM received signal.

7. A noise eliminating circuit comprising:

a predicting unit that predicts a value of the intermediate frequency signal at a predetermined clock time based on an intermediate frequency signal generated a predetermined time earlier than the intermediate frequency signal;

a detecting unit that compares

a difference between the value of the predicted intermediate frequency signal and the value of the generated intermediate frequency signal, at the predetermined clock time, with

a predetermined threshold,

to output a detection signal indicating the generation of the pulse noise; and

a noise elimination processing unit that interpolates a generation period of pulse noise overlapped with a detection result of a received signal, based on the detection signal, wherein

the detecting unit sets the threshold so as to increase with weakening an electric field intensity signal within a predetermined electric field intensity range, depending on electric field intensity signal acquired based on the intermediate frequency signal.